General

Guideline Title

Investigation and management of non-immune fetal hydrops.

Bibliographic Source(s)

DÃ©silets V, Audibert F, Genetics Committee. Investigation and management of non-immune fetal hydrops. J Obstet Gynaecol Can. 2013 Oct;35(10):923-38. [78 references] PubMed

Guideline Status

This is the current release of the guideline.

Recommendations

Major Recommendations

The quality of evidence (I-III) and classification of recommendations (A-E, L) are defined at the end of the "Major Recommendations."

Introduction

Recommendation

1. All patients with fetal hydrops should be referred promptly to a tertiary care centre for evaluation. Some conditions amenable to prenatal treatment represent a therapeutic emergency after 18 weeks. (II-2A)

Etiologies

Recommendation

2. Fetal chromosome analysis and genetic microarray molecular testing should be offered where available in all cases of non-immune fetal hydrops where available. (II-2A)

Prenatal Management

Recommendations

3. Imaging studies should include comprehensive obstetrical ultrasound (including arterial and venous fetal Doppler) and fetal echocardiography. (II-2A)
4. Investigation for maternal–fetal infections, and alpha-thalassemia in women at risk because of their ethnicity, should be performed in all cases

of unexplained fetal hydrops. (II-2A)

5. To evaluate the risk of fetal anemia, Doppler measurement of the middle cerebral artery peak systolic velocity should be performed in all hydropic fetuses after 16 weeks of gestation. In case of suspected fetal anemia, fetal blood sampling and intrauterine transfusion should be offered rapidly. (II-2A)

Prognosis

Recommendation

6. All cases of unexplained fetal hydrops should be referred to a medical genetics service where available. Detailed postnatal evaluation by a medical geneticist should be performed on all cases of newborns with unexplained non-immune hydrops. (II-2A)

Perinatal Management

Recommendation

7. Autopsy should be recommended in all cases of fetal or neonatal death or pregnancy termination. (II-2A) Amniotic fluid and/or fetal cells should be stored for future genetic testing. (II-2B)

Definitions:

Quality of Evidence Assessment*

I: Evidence obtained from at least one properly randomized controlled trial

II-1: Evidence from well-designed controlled trials without randomization

II-2: Evidence from well-designed cohort (prospective or retrospective) or case–control studies, preferably from more than one centre or research group

II-3: Evidence obtained from comparisons between times or places with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of treatment with penicillin in the 1940s) could also be included in this category

III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees

*Adapted from The Evaluation of Evidence criteria described in the Canadian Task Force on Preventive Health Care.

Classification of Recommendations†

A. There is good evidence to recommend the clinical preventive action

B. There is fair evidence to recommend the clinical preventive action

C. The existing evidence is conflicting and does not allow to make a recommendation for or against use of the clinical preventive action; however, other factors may influence decision-making

D. There is fair evidence to recommend against the clinical preventive action

E. There is good evidence to recommend against the clinical preventive action

L. There is insufficient evidence (in quantity or quality) to make a recommendation; however, other factors may influence decision-making

†Adapted from the Classification of Recommendations criteria described in the Canadian Task Force on Preventive Health Care.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Non-immune fetal hydrops

Guideline Category

Counseling

Diagnosis

Evaluation

Management

Treatment

Clinical Specialty

Internal Medicine

Medical Genetics

Obstetrics and Gynecology

Pediatrics

Intended Users

Advanced Practice Nurses

Health Care Providers

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

To describe the current investigation and management of non-immune fetal hydrops, with a focus on treatable or recurring etiologies

Target Population

Pregnant women with fetal hydrops

Interventions and Practices Considered

1. Prompt referral to a tertiary care centre for evaluation
2. Fetal chromosome analysis
3. Genetic microarray molecular testing
4. Obstetrical ultrasound (including arterial and venous fetal Doppler)
5. Fetal echocardiography
6. Investigation for maternal–fetal infections and alpha-thalassemia
7. Fetal blood sampling and intrauterine transfusion

8. Referral to a medical genetics service
9. Postnatal evaluation
10. Autopsy (for all cases of fetal or neonatal death or pregnancy termination)

Major Outcomes Considered

- Sensitivity and specificity of diagnostic evaluations
- Effectiveness of counseling and management approaches
- Rate of fetal infection, anemia and other associated conditions
- Fetal morbidity and mortality
- Treatment effectiveness

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Searches of Unpublished Data

Description of Methods Used to Collect/Select the Evidence

Published literature was retrieved through searches of PubMed or MEDLINE, CINAHL, and The Cochrane Library in 2011 using key words (non-immune hydrops fetalis, fetal hydrops, fetal therapy, fetal metabolism). Results were restricted to systematic reviews, randomized controlled trials/controlled clinical trials, observational studies, and significant case reports. Additional publications were identified from the bibliographies of these articles. There were no date or language restrictions. Searches were updated on a regular basis and incorporated in the guideline to May 2012. Grey (unpublished) literature was identified through searching the websites of health technology assessment and health technology-related agencies, clinical practice guideline collections, clinical trial registries, and national and international medical specialty societies.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Quality of Evidence Assessment*

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III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees

*Adapted from The Evaluation of Evidence criteria described in the Canadian Task Force on Preventive Health Care.

Methods Used to Analyze the Evidence

Systematic Review

Description of the Methods Used to Analyze the Evidence

The quality of evidence in this document was rated using the criteria described in the Report of the Canadian Task Force on Preventive Health Care (see the "Rating Scheme for the Strength of the Evidence" field).

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Not stated

Rating Scheme for the Strength of the Recommendations

Classification of Recommendations†

A. There is good evidence to recommend the clinical preventive action

B. There is fair evidence to recommend the clinical preventive action

C. The existing evidence is conflicting and does not allow to make a recommendation for or against use of the clinical preventive action; however, other factors may influence decision-making

D. There is fair evidence to recommend against the clinical preventive action

E. There is good evidence to recommend against the clinical preventive action

L. There is insufficient evidence (in quantity or quality) to make a recommendation; however, other factors may influence decision-making

†Adapted from the Classification of Recommendations criteria described in the Canadian Task Force on Preventive Health Care.

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

This clinical practice guideline has been prepared by the Genetics Committee, reviewed by Maternal Fetal Medicine Committee, and approved by the Executive and Council of the Society of Obstetricians and Gynaecologists of Canada.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

- Appropriate investigation and management of non-immune fetal hydrops
- Education of readers about the causes of non-immune fetal hydrops and its prenatal counselling and management
- Provision of a standardized approach to non-immune fetal hydrops, emphasizing the search for prenatally treatable conditions and recurrent genetic etiologies
- Diagnosing or ruling out a metabolic disorder as the causal factor for non-immune fetal hydrops is important because these single gene disorders carry a 25% risk of recurrence, and their identification may allow for prenatal diagnosis at an earlier stage in future pregnancies.

Potential Harms

Traditional serological tests, which measure antibody levels including immunoglobulin M (IgM) and immunoglobulin G (IgG), usually require two samples separated by a significant time period for determination of seroconversion or a substantial rise in titer. IgM identification is more indicative than IgG of a recent infection; however, IgM may persist several months or even years in some cases. IgM can also be negative at the time of fetal hydrops if the seroconversion occurred several weeks earlier. Various tests may distinguish between IgG and IgM and may allow diagnosis in one serum sample, but biological and technical difficulties are common and may cause false-positive and false-negative results.

Qualifying Statements

Qualifying Statements

This document reflects emerging clinical and scientific advances on the date issued and is subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed. Local institutions can dictate amendments to these opinions. They should be well documented if modified at the local level. None of these contents may be reproduced in any form without prior written permission of the Society of Obstetricians and Gynaecologists of Canada (SOGC).

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Foreign Language Translations

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

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Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2013 Oct

Guideline Developer(s)

Society of Obstetricians and Gynaecologists of Canada - Medical Specialty Society

Source(s) of Funding

Society of Obstetricians and Gynaecologists of Canada

Guideline Committee

Genetics Committee

Composition of Group That Authored the Guideline

Principal Authors: Valérie Désilets, MD, Montreal QC; François Audibert, MD, Montreal QC

Genetics Committee: R. Wilson, MD (*Chair*), Calgary AB; François Audibert, MD, Montreal QC; Jo-Ann Brock, MD, Halifax NS; June

Carroll, MD, Toronto ON; Lola Cartier, MSc, Montreal QC; Alain Gagnon, MD, Vancouver BC; Jo-Ann Johnson, MD, Calgary AB; Sylvie Langlois, MD, Vancouver BC; William MacDonald, MD, Halifax NS; Lynn Murphy-Kaulbeck, MD, Moncton NB; Nanette Okun, MD, Toronto ON; Melanie Pastuck, RN, Cochrane AB; Vyta Senikas, MD, Ottawa ON

Financial Disclosures/Conflicts of Interest

Disclosure statements have been received from all contributors.

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available from the Society of Obstetricians and Gynaecologists of Canada Web site. Also available in French from the SOGC Web site.

Print copies: Available from the Society of Obstetricians and Gynaecologists of Canada, La société des obstétriciens et gynécologues du Canada (SOGC) 780 promenade Echo Drive Ottawa, ON K1S 5R7 (Canada); Phone: 1-800-561-2416.

Availability of Companion Documents

None available

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on January 31, 2014. The information was verified by the guideline developer on March 17, 2014.

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